

Post Rock Extension District Column

By Blaire Todd

K-State Research and Extension-Post Rock District

Livestock Production Agent

Forage and Feed Sampling & Testing: A Practical Guide

Testing your forage and feed is one of the most valuable steps you can take to make sure your cattle are meeting their nutritional needs. By collecting good samples, choosing the right tests, and understanding the results, you can save money, improve animal performance, and avoid unexpected problems.

The first step is making sure your sample represents what the cattle will eat. Always sample by “lot,” meaning hay or forage that comes from the same field and cutting. Never mix bales from different cuttings or pastures into one sample. Also consider timing; sampling right before feeding shows the most accurate nutrient value, as it includes any storage losses. Use a hay probe or core sampler when possible and collect at least 20 cores from different bales in a lot. For chopped silage or baleage, take grab samples from several locations and mix them. Once collected, combine samples in a clean bucket, mix thoroughly, and seal in a heavy-duty plastic bag. For high moisture feed, freeze the sample until it’s shipped to the lab. Clear records are just as important as a good sample. Label each bag with your name, lot ID, harvest date, and forage type. On the lab paperwork, note any details about maturity, legume content, or suspected issues like mold. Ship samples quickly, preferably early in the week. Use ice packs or freeze high-moisture feeds like silage to keep them from spoiling.

When searching for a lab to send samples, look for one that is accredited by the National Forage Testing Association (NFTA). Most routine analyses are conducted using Near-Infrared Reflectance Spectroscopy (NIRS), which is fast and affordable. However, the “gold standard” for feed analysis is wet chemistry, which can be more accurate for certain feed types. At minimum, request tests for dry matter (DM), crude protein (CP), acid detergent fiber (ADF), and neutral detergent fiber (NDF). These values also allow the lab to calculate energy, like TDN. Optional tests like nitrates, minerals, or fiber digestibility are worth considering if you suspect specific issues or are feeding high-risk forages like sorghum or drought-stressed hay.

The real value of forage testing comes when you compare lab results to your cattle’s requirements. For example, if a cow needs 1.4 pounds of protein daily but your hay only provides 0.9 pounds, you know to add a protein supplement. Conversely, if your hay is richer than expected, you can save money by cutting back on purchased feed. Matching different forages to the right class of cattle is also a smart management strategy. Reserve your highest quality hay for lactating or growing animals, while dry mature cows might be able to get by on lower-quality forage. The biggest pitfalls are poor sampling (too few cores or mixing lots), mislabeling bags, and misreading results (confusing “as-fed” with “dry matter” values). Don’t rely only on RFV or CP without considering energy, fiber, and minerals. Always ship samples promptly to prevent spoilage.

Good sampling and testing take time but can help improve operation efficiency. By knowing exactly what nutrients your forage provides, you can fine-tune rations, avoid toxicity risks, and stretch your feed dollars further. Forage analysis is a simple but powerful tool to boost both cattle performance and your bottom line. Thanks to Emma Briggs for sharing information related to forage and feed testing. For further information on taking a sample, please contact me at any of the Post Rock Extension District Offices in Beloit, Lincoln, Mankato, Osborne, or Smith Center.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Blaire may be contacted at blairet@ksu.edu or by calling Beloit 738-3597, Smith Center 282-6823, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us on Facebook at “Post Rock Extension” along with our website www.postrock.ksu.edu.